

Abstract

A method and a system for improved reductant delivery to an exhaust gas aftertreatment device for a lean burn internal combustion engine exhaust is presented. The system includes a heated evaporator unit into which a mixture of reductant and air is injected, wherein the mixture is vaporized and introduced into the exhaust gas aftertreatment device. Introducing the reductant mixed with air into the heated evaporator unit prevents lacquering and soot deposits on the heated element housed inside the unit, and also speeds up the vaporization process due to better reductant distribution thus reducing system response delays and improving conversion efficiency of the exhaust gas aftertreatment device. The reductant delivery system is further improved by adding a catalyst to it, and by preventing the reductant and air mixture from coming into direct contact with the surface of the heating element.

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